



## DHS Series SUMMIT™ Conversion Varnishes

The DHS Summit™ Series is a line of solvent borne, two component, alkyd/amino resin based conversion varnishes. They are yellowing resistant topcoats that feature outstanding chemical resistance and exceptional build. They are specifically designed to be intermixed with D9 Series Summit™ White Topcoats to achieve deep or mid-tone colours. DHS Summit™ Clear may also be used as a standalone, high build, post-cat topcoat for high demand furniture and cabinet applications.

### SUGGESTED APPLICATIONS:

- cabinets
- household furniture
- interior trim and millwork
- office furniture
- kitchen and bath components
- high demand furniture

### KEY PERFORMANCE FEATURES

- non-yellowing
- excellent hardness
- high build
- outstanding mar and scratch resistance
- ultra low formaldehyde
- outstanding chemical and moisture resistance
- excellent flow and levelling
- conforms to KCMA & AWI/TR-4 & AWMAC System #5 Conversion Varnish Standards

### RELATED PRODUCTS

D9 Series Summit™ White Post-Catalyzed Topcoats

### PHYSICAL PROPERTIES

Available Sheens	5,15,25,35,90
Weight Solids	60% ± 2
Volume Solids	52% ±2
Viscosity	75-80" @ 25°C Ford 4
Specific Gravity	1.0073 +/- 0.01 gms/cc @ 25°C
VOC	427 g/l
Typical coverage	10-12 m <sup>2</sup> / ltr @ 1 mil dry

### ADDITIONAL CHARACTERISTICS

Catalyzation:	10% by volume of 1CAT catalyst
Pot-Life:	10-12 hrs at room temp.
Reduction:	20% by volume T5247 High Flow Reducer
Retarder:	n/a
Clean-up:	T4420 215 Gun Wash Universal
Shelf-life:	1 year from date of manufacture

### Dry Times

26°C (~78°F) 50% RH	
To Touch	10 minutes
To Sand	30-60 minutes
To Stack/Pack	18-24 hours

Note: Drying times will decrease at higher temperatures/lower humidity and will increase at lower temperatures/high humidity

**COLOUR DEVELOPMENT** – DHS Series Summit™ Clear can be mixed in any proportion up to 1:1 with D9 Series Summit™ White Series. Stir all components well before intermixing, tinting or reducing. Tint with 844 series colorants up to 10% by vol.

**COATING PREPARATION** - Ensure product is stirred well and brought to room temperature before use. Product may be sprayed by conventional, airless and air-assisted airless spray. Add 10% 1CAT Catalyst by volume to unreduced product slowly under agitation. Add 20% T5247 High Flow Reducer to product, agitate. Pot life is 10-12 hours at room temperature.

**SURFACE PREPARATION** - Wood surface should be clean, dry and free from any oil or grease. Moisture content of the wood should be 7-9%.

**APPLICATION** - For easier primer application, seal routed MDF areas with a Katilac post-cat sealer or topcoat. Allow to dry 30-60 minutes at room temperature and sand coated areas with 240-400 grit sand paper. Prime the entire substrate with D28 Duraprime™ at 3-4 wet mils and allow to dry 30-60 minutes and sand entire surface with 240-320 grit sand paper.

Apply a full uniform coat of DHS Summit Clear/D9 Summit White intermixed topcoat at a rate of 4 to 5 mils wet. Dry for 1-2 hours at room temperature and sand the entire surface with

300-400 grit sand paper. Apply a second thin coat at 3 to 4 wet mils. Proper sanding is critical to produce a smooth finish and promote adhesion between the primer coat and the topcoat.

Total film thickness of the finished system (primer and topcoat) should not exceed 5 dry mils.

When using DHS Series Summit™ as a stand-alone clear topcoat, seal substrate with a KCI post-cat sealer and apply 1 or 2 coats DHS, sanding in between coats, 3-4 wet mils per coat. Do not exceed dry mils for the complete system (sealer/topcoat).

**SAFETY** – During application, always wear eye protection, gloves and appropriate work clothing to minimize contact. Use a respirator and safety glasses at all times when spraying. Explosion proof ventilation is required with special consideration for enclosed or confined areas. Use caution when handling flammable liquids and eliminate sources of ignition and uncovered containers from the work place. Vapours formed from this product may travel or be moved by air currents and ignited by pilot lights, light switches, other flames, smoking, sparks, heaters, electrical equipment, static discharges or other ignition sources at locations distant from the product.

# DHS Series SUMMIT™ Conversion Varnishes (cont'd)

## PERFORMANCE TESTING / FILM CHARACTERISTICS

All performance testing is based on a composite of ASTM, AWI, ANSI and KCMA Standards

### Household Chemical Resistance (ASTM D1308)

- test samples consist of 1 mil dry film on glass
- aged 7 days at room temperature prior to testing
- testing was performed by placing 1 milliliter of reagent on the surface of the dry film, under a watch glass for time as noted

Distilled Water (D1308.6.1.1)	24 hrs	No effect
Ethyl Alcohol (D1308.6.1.3)	24 hrs	No effect
Coffee @ 180F (D1308.6.1.13)	24 hrs	No effect
Vinegar (D1308.6.1.4)	24 hrs	No effect
Mustard (D1308.6.1.12)	2 hrs	Slight discoloration – recovers @ 24hrs
Vegetable Oil (D1308.6.1.11)	24 hrs	No effect
Dish Detergent (D1308.6.1.8)	24 hrs	No effect

Note: A complete list of resistance tests with industrial and household chemicals can be found under ADDITIONAL STAIN TESTS

### Hot Print Resistance (ASTM D 2091-96)

- test samples consisted of 1 mil dry film aged for 24 hours at room temperature prior to print testing
- duck cloth under a weight of 4 psi was then placed on dry film surface for a defined temperature/time
  - 72F (18 hrs) 4 psi...pass
  - 120F (1 hr) 4 psi.....pass
  - 140F (1 hr) 4 psi.....pass

### Hot/Cold Cycling Test (ASTM D 1211-97)

- test samples were coated on red oak at 4 mils dry and aged 21 days at room temperature prior to testing.
- one cycle consisted of:
  - 120F / 70% RH for 1 hour room temperature for 1 hour
  - -5F for 1 hour
- specimens examined for discoloration, blistering, cold cracking and film failure

No signs of failure at 10 cycles

### Flammability Testing (ASTM E 84- 08a) Surface Burn Rating

- test samples consisted of fiberglass reinforced cement board coated with 4 mils dry of DHS Series
- samples were aged for 21 days at room temperature prior to testing

Flame Spread Index.....5.0 Class 1 / Class A  
Smoke Development.....5.0 Class 1 / Class A

**DISPOSAL** - Disposal of chemicals and their solutions should be done according to local, provincial and federal regulations. Product Material Safety Data Sheets are available and should be consulted when handling products. These products are for Industrial and professional use only; Application directions must be followed.

## KCMA Testing (ANSI/KCMA A161.1.1.2000)

Test samples consist of solid red oak coated at 4 mils dry and aged for 21 days at room temperature

### A. Chemical Testing

- Vertical position for 24 hrs, water washed, dried, examined

Vinegar	Pass	Lemon Juice	Pass
Orange Juice	Pass	Grape Juice	Pass
Ketchup	Pass	Coffee	Pass
Olive Oil	Pass	100 proof alcohol	Pass
Mustard	Pass		

### B. Detergent & Water Resistance Test

- Test panel edge immersed in KCMA detergent solution 24hrs
- Removed, dried and examined  
PASS – no signs of blistering, whitening, delamination, swelling

### C. Heat Resistance Test

- Test panel placed in test chamber @ 120F/70% RH for 24hrs  
PASS – no signs of discoloration, whitening, delamination or swelling

### D. Hot/Cold Cycle Test

- One cycle consists of 1 hr @ 120F / 30 min room temp / 1 hr - 5F  
PASS – 10 cycles with no signs of discoloration, blistering, cold checking or any film failure

### Additional Stain Tests

Testing conducted according to AWI, ASTM & KCMA Standards

- test samples consist of 1 mil dry film on glass
- aged for 21 days at room temperature
- testing was performed by placing 1 milliliter of reagent on the surface of the dry film, under a watch glass for time as noted

Ketchup	24 hrs	5	Windex	24 hrs	5
Palmolive Sol.	16 hrs	5	Mustard	1 hr	5
50% Ethanol	24 hrs	5	Acetone	1 hr	5
4% NaOH	1 hrs	5	Water	24 hrs	5
Olive Oil	24 hrs	5	Boiling Water	16 hrs	5
Tomato Juice	16 hrs	5	Motor Oil	16 hrs	5
2% Ammonia	24 hrs	5	Grease/Oil	16 hrs	5
Nail Polish Rem.	1 hr	5	Lighter Fluid	16 hrs	5
Lemon Juice	24 hrs	5	Vinegar	24 hrs	5
Red Wine	24 hrs	5	1% Tide Sol.	16 hrs	5
Coffee @ 180°F	24 hrs	5			

Rating: 1-poor 2-fair 3-good 4-very good 5-excellent

**WARRANTY** – Katilac Coatings Inc. warrants that its products are free from defects in manufacture for a period of one (1) year from date of purchase, if used prior to expiration date and applied and used in accordance with Katilac Coatings' most current published specifications applicable to such products. Katilac Coatings Inc. expressly disclaims all other warranties, express or implied, including the implied warranties of merchantability and fitness for purpose. Katilac Coatings Inc. disclaims all liability for incidental, consequential or indirect damages of any nature whatsoever. This warranty cannot be changed or modified whether by course of dealing, custom or trade or otherwise, unless agreed to in writing by Katilac Coatings Inc.